Report Date: 30 Jun 2014

Summary Report for Individual Task
551-88L-3073
Monitor the Testing for Quality of Potable Water
Status: Approved

Condition: Aboard an Army vessel, while underway, day or night, under all sea and weather conditions.

Standard: The Soldier monitors the quality of testing potable water aboard a vessel, IAW the applicable technical manuals and local SOPs.

Special Condition: None

Safety Risk: Medium

MOPP 4:

Task Statements

Cue: None

DANGER

None

WARNING

None

CAUTION

None

Remarks: None

Notes: None

Performance Steps

1. Monitor testing procedures for potable water.

a. Testing the bromine content Bromine Feeder requires the use of the Bromine/Chlorine Test Kit.

Bromine/Chlorine Test Kit
Figure 551-88L-3073_01

(1) Be sure that FEEDER ON indicator light on the bypass header assembly is on while making test.

(2) The procedure for testing the bromine content of the water is outlined as follows:
Note: Bromine residual of sample water must be at least 0.2 ppm to indicate proper operation.

(a) Remove cap from kit marked CL, rinse tube using water from the bypass header assembly lap.

(b) Fill CL tube with water sample from test tap.

(c) Spill water from tube until level with the line under CL marking on tube.

(d) Remove cap from OTO solution. Place nozzle of OTO bottle vertically over opening in CL tube and squeeze 5 drops of solutiion into CL tube.

(e) Place cap on CL tube and invert tube serveral times to mix OTO with water.

(f) Compare tube color with adjacent color markings. The ideal range is 2.5 to 3.5.

(g) Empty sample water test tubes, rinse and dry thoroughly and replace test tubes. Enter results in potable water log Figure 551-88L-3073_03.

b. Another method of testing content of product water is the use of the Total Dissolved Solids Meter (TDS).

Note: The portable total dissolved solids (TDS) meter is factory calibrated to give conductivity characteristics closely representing natural fresh waters. When treating seawater and brackish water, it will be necessary to recalibrate the meter on a standard sodium chloride solution in order to get accurate readings on the product water and raw water.

(1) The portable TDS meter is used to measure total dissolved solids in raw and product water.

(2) In the event that freshwater produced by the waste heat Evaporator reaches or exceeds 4 parts per million of total dissolved solids (or 0.25 grains sea salt per gallon), the red alarm lamp will glow.

(3) This test should be conducted every hour by the engine watchman and annotated in the water log book.

(4) Testing procedures using the TDS meter.

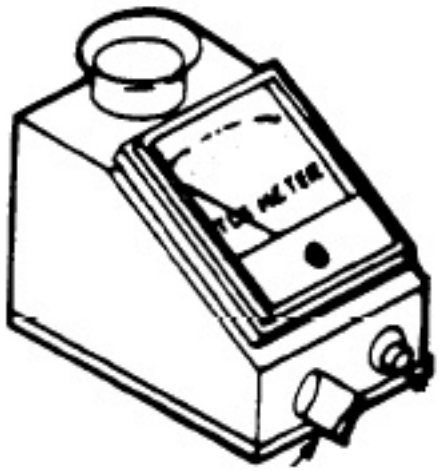
(a) Rinse cell cup three times with water to be tested.

(b) Fill cell cup to 1/2 inch from top with water to be tested.

(c) Press indicator button. If reading is less than 500, switch to the 0 to 5 x 100 scale range. If reading is below 50, switch to 0 to 5 x 10 scale range.

(d) Record highest 0-to-5 reading by range factor used to get that reading (10, 100, or 1000) to get proper value in ppm or mg/l; record.

(e) Thoroughly rinse cell cup using purest water available. Wipe dry with clean cloth.



Total Dissolve Solids Meter (Portable)
Figure 551-88L-3073_03

2. Annotate readings in potable water log.

a. The increased awareness of disease carrying water has necessitated the use of a log for determining if the shipboard potable water is properly disinfected.

b. A log similar to the preceding figure should be prepared for general use throughout the ship.

c. Use of the log is at the discretion of the Chief Engineer and Medical Representative.

SHIP _____

ENGINEERING OFFICER _____

DATE	OPERATOR	TANK NO.	WATER SOURCE	INITIAL RESIDUAL	SAMPLE POINT	TREATMENT TIME	TREATMENT METHOD	pH LEVEL	FINAL RESIDUAL	COMMENTS

Potable Water Log

Figure 551-88L-3073_04

Directions for completing log:

DATE:	Enter date of each test.
OPERATOR:	Enter name of person performing test.
TANK NO.:	Enter number of tank supplying water being examined.
WATER SOURCE:	Enter major source of water being examined-Examples: A. Transfer from shore (indicate in comment column if unapproved source). B. Transfer from water barge. C. Ship's distillers.
INITIAL RESIDUAL:	Enter residual at time of test prior to any disinfection or treatment (should be minimum 0.2 ppm Br2 or C12).
SAMPLE POINT:	Enter point where water is drawn for lest; e.g., galley, scuttle butt, brominator, etc.
TREATMENT TIME:	If tank tested required treatment, enter how much time was taken to treat tank.
TREATMENT METHOD:	Enter method for treating tank; i.e., batch chlorination, bromination.
pH LEVEL:	Enter pH in tank after treatment. If pH is above 8.0 in chlorinated water supply or 9.0 in brominated water supply, consult Manual of Naval Preventive Medicine NAVMED P-5010-6.
FINAL RESIDUAL:	Enter end residual in tank after treatment (should be minimum 0.2 ppm Br_2 or $C1_2$).
COMMENTS:	Self-explanatory

Directions for Completing Log

Figure 551-88L-3073_05

d. Bacteriological Analysis.

(1) Free available chlorine testing for the presence of FAC residual in the potable water system is the most practical means of ensuring a safe water supply on Army watercraft.

(2) A more definitive means of ensuring a safe water supply is performing a bacteriological analysis.

(3) The conduct of laboratory analyses is beyond the capability of watercraft personnel.

(a) Samples must be submitted to a local medical facility for testing.

(b) Samples will be submitted at a frequency determined by the Director of Health Services.

_1_ The shore medical facility is responsible for providing sterile containers and performing the bacteriological analysis.

_2_ A record of sample results will be maintained by the watercraft.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: None

Evaluation Preparation: None

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Monitored testing procedures for potable water.			
2. Annotated readings in potable water log.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	TB 43-0153	WATER SUPPLY AFLOAT	No	No
	TM 55-1915-207-24&P	UNIT, INTERMEDIATE DIRECT SUPPORT AND INTERMEDIATE GENERAL SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) WATER PURIFICATION SYSTEM, SW-1000 SERIES IV, P/N AW 595-37352-4 (REPR	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks : None

Supported Collective Tasks : None

ICTL Data :

ICTL Title	Personnel Type	MOS Data
88L30 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL3, Duty Pos: TFR, LIC: EN
88L40 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL4, Duty Pos: TGB, LIC: EN, SQI: O